

Remarks

The Office Action dated April 15, 2010 has been received and reviewed. No claims having been added, amended, or canceled herein, the pending claims are claims 1-3, 5-17, 19-25, 27-32, 34-43, and 45-80.

Reconsideration and withdrawal of the rejections are respectfully requested.

Rejections under 35 U.S.C. §103(a)

The Examiner rejected under 35 U.S.C. §103(a), claims 1-3, 5, 8-11, 14-17, 19, 22, 30-32, 34, 36-43, 45-48, 50-64, and 69-80 as unpatentable over Mitra et al. (US Patent No. 5,888,491) in view of Majeti et al. (US Patent No. 7,025,950); claims 6-7, 12-13, 20-21, 23-25, 27-29, 49, and 65-68 as unpatentable over Mitra et al. in view of Majeti et al., and further in view of Aasen et al. (US Patent No. 4,861,786); and claims 30-32, 34-35, 37-43, 45, 50-52, and 60-80 under 35 U.S.C. §103(a) as being unpatentable over Rozzi et al. (US Patent No. 5,607,663) in view of Majeti et al. Applicants respectfully traverse these rejections.

Each of independent claims 1, 8, 15, 23, 30, 37, 41, and 46-52 recite a polymer that includes, among other things, (a) a repeating unit comprising a polar or polarizable group selected from the group consisting of hydroxy; thio; amido; cyclic ether; phosphine; amine; ammonium; oxyacid of C, S, P, or B; salt of an oxyacid of C, S, P, or B; thiooxyacid of C, S, P, or B; and salt of a thiooxyacid of C, S, P, or B; and (b) a repeating unit comprising a fluoride releasing group, wherein the repeating unit comprising the polar or polarizable group is different than the repeating unit comprising the fluoride releasing group.

In all the rejections, the Examiner relied on Mitra et al. or Rozzi et al. for disclosing the polymers recited in the present claims (e.g., page 2, last paragraph of the Office Action dated April 15, 2010). Applicants earnestly disagree.

Specifically, the Examiner noted that Mitra et al. disclose copolymers having repeat units of A, which can include hydroxy groups (e.g., hydroxypropylmethacrylamide). Applicants agree.

Further, the Examiner noted that Mitra et al. disclose copolymers having repeat units of A, which can include fluoride-releasing groups.¹ Applicants again agree.

However, there is no explicit disclosure in Mitra et al. of a copolymer that includes both (a) a repeating unit comprising a polar or polarizable group selected from the group consisting of hydroxy; thio; amido; cyclic ether; phosphine; amine; ammonium; oxyacid of C, S, P, or B; salt of an oxyacid of C, S, P, or B; thiooxyacid of C, S, P, or B; and salt of a thiooxyacid of C, S, P, or B; and (b) a repeating unit comprising a fluoride releasing group.

Nonetheless, the Examiner asserted that "it would have been obvious to use both hydroxypropylmethacrylamide and 1-N,N,N-triethylammonium ethyl (meth)acrylate as unit A monomers in the polymer of Mitra et al." (page 4, lines 16-18 of the Office Action dated April 15, 2010). As support for his assertion of obviousness, the Examiner stated that "it is *prima facie* obvious to combine two compositions, each of which is taught by the prior art to be useful for the same purpose, in order to form a third composition to be used for the very same purpose. The idea for combining them flows logically from their having been individually taught in the prior art" (page 4, lines 12-15 of the Office Action dated April 15, 2010, citing M.P.E.P. §2144.06 for support). Applicants respectfully submit that the Examiner's asserted support for the present obviousness rejection is inapposite to the present fact situation.

As support for the obviousness of combining equivalents known for the same purpose, M.P.E.P. §2144.06 cites *In re Kerkhoven*, 626 F.2d 846, 850, 205 USPQ 1069, 1072 (CCPA 1980), in which the claims as issue "require no more than the mixing together of two conventional spray-dried detergents" (*Kerkhoven*, 626 F.2d at 850, 205 USPQ at 1072). Applicants respectfully submit that the present claims require more than the mixing together of two conventional monomers to provide a mixture of monomers.

In fact, the present claims recite a polymer (e.g., a copolymer) that has two different repeating units. Although a copolymer may be prepared from a mixture of monomers,

¹ Applicants note that the (meth)acrylic esters of fluoroalkylsulfonamido alcohols disclosed by Mitra et al., which **contain fluorine covalently bonded to carbon and thus are not examples of fluoride-releasing groups**, are examples of repeat units of B, not repeat units of A as alleged by the Examiner.

Applicants respectfully submit that one of skill in the art would immediately recognize that the copolymer would have very different properties than the mixture of monomers, and thus could not be used for the same purpose. For at least this reason, Applicants respectfully submit that the present fact situation does not involve combining two compositions, each of which is taught by the prior art to be useful for the same purpose, in order to form a third composition to be used for the very same purpose.

For at least this reason, Applicants respectfully submit that the Examiner has failed to establish a *prima facie* case of obviousness. Reconsideration and withdrawal of the rejections under 35 U.S.C. §103(a) are respectfully requested.

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Summary

It is respectfully submitted that all the pending claims are in condition for allowance and notification to that effect is respectfully requested. The Examiner is invited to contact Applicants' Representatives at the telephone number listed below if it is believed that prosecution of this application may be assisted thereby.

Respectfully submitted

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CERTIFICATE UNDER 37 CFR §1.8:

The undersigned hereby certifies that this paper is being transmitted via the U.S. Patent and Trademark Office electronic filing system in accordance with 37 CFR §1.6(a)(4) to the Patent and Trademark Office addressed to the Commissioner for Patents, Mail Stop AF, P.O. Box 1450, Alexandria, VA 22313-1450, on this 15th day of June, 2010.

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